REMARKS

With entry of amendments in the claim listing above, Claims 1 through 42 remain in the application. No claim has been allowed. This application includes four (4) independent claims including Claims 1, 21, 41 and 42. Claims 2 through 20 depend from Claim 1. Claims 22 through 40 depend from Claim 21.

In the present Office Action (hereinafter "Action"), Claims 1, 5 through 14, 18 through 21, and 25 through 42 were rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 6,307,879 to Moriyama (hereinafter "Moriyama").

Claim 1 is being amended to distinguish more clearly over the cited reference. Applicant has now amended Claim 1 to recite that the method includes "calculating a metric of a modulated signal indicative of a changing environment between the first and second stations as a function of a change in at least one modulation attribute of the modulated signal." Amended Claim 1 now recites that the method also adjusts "at least one parameter of the wireless link based at least on the metric to compensate for the rapid changes affecting the signaling path." Support for the amendments are found at least at page 10, line 15.

In view of the above-described amendments, Applicant now contends that Claim 1 is patentable as Moriyama, alone or in combination with the relied upon references, does not disclose or suggest all of the elements of Claim 1 as amended.

Moriyama does not disclose or suggest calculating a metric of a modulated signal indicative of a changing environment between the first and second stations as a function of a change in at least one modulation attribute of the modulated signal.

For example, Moriyama discloses at column 16, line 65 that, "[d]etection of the reception error state may be performed by measuring a variance ϵ from code points of the digital demodulated signals I and Q," where Moriyama uses ϵ to optimize tap factors for FIR filters 22, 23 used to generate the demodulated I and Q signals. This arrangement of the receiver 5 is clearly associated with the demodulated signal as shown in Fig. 7 and not the modulated signal, as presently claimed in independent Claim 1.

Furthermore with regard to independent Claim 1, Applicant respectfully contends that Moriyama does not disclose or suggest "adjusting at least one parameter of the wireless link

based on the metric of the modulated signal to compensate for rapid changes affecting the signaling path." While Moriyama does make adjustments to receiver circuitry, Moriyama does not actually adjust parameters of the wireless link based on a metric calculated as a function of a modulation attribute of a modulated signal. Applicant's amended Claim 1 now more particularly recites that limitation ("adjusting at least one parameter of the wireless link based at least on the metric").

Reconsideration and withdrawal of the rejection of Claim 1 are respectfully requested. Applicant respectfully submits: Claims 5 through 14, 18 through 20 are also patentable as these claims depend from Claim 1; Independent Claims 21, 41, and 42 are patentable for reasons similar to those argued above for Independent Claim 1; and Claims 25 through 40 are further patentable as these claims depend from Claim 21.

In the Action, Claims 2 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Moriyama. Because the rejected claims depend from base Claims 1 and 21, the remarks presented above apply. Therefore, dependent Claims 2 and 22 should be allowed for at least the same reasons as the base claims from which they depend. Moreover, Applicant respectfully contends that Moriyama does not disclose or suggest any method where the first station is a base station and the second station is a mobile station with the metric of the modulated signal being calculated by the mobile station.

In fact, Moriyama teaches away from the metric calculated by the mobile station at column 4, lines 5 through 15. At column 4, lines 5 through 15, initially the discrimination unit of Moriyama compares an output with a code point to produce an error signal. However, Moriyama discloses that to have an optimum tap factor would require complex, large volume operations to be carried out, so that real-time processing by a DSP or the like is impossible when the number of taps is increased.

Accordingly, after reviewing that large volume complex operations are disfavored at the handset (and categorized as 'impossible' by Moriyama as the number of taps is increased), one of ordinary skill in the art would not then be motivated to calculate the metric of the modulated signal by the mobile station as claimed in Claims 2 and 22, as such operations are disfavored. Reconsideration and withdrawal of the rejection of these claims are earnestly solicited.

In the Action, Claims 3 through 4, and 23 through 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Moriyama in view of United States Patent No. 6,522,696 B1 to Mobin, *et al.* (hereinafter "Mobin").

Applicant notes for the file wrapper that Mobin is identified with the incorrect patent number at page 9 of the Action.

Because the rejected claims depend from base Claims 1 and 21 as described above, the remarks presented above apply. Therefore, dependent Claims 3, 4, 23 and 24 should be allowed for at least the same reasons as the base claims from which they depend. Furthermore, Applicant contends that Moriyama, Mobin and the combination thereof do not disclose or suggest any method where the metric of the modulated signal is indicative of motion of at least one of the stations or where the metric is indicative of motion of objects in the signaling path.

The Office Action contends that Moriyama teaches that an eye distortion is directly related to degradation in reception level and that reception level is related to distance between two stations. However, Applicant's Claims 3 and 4 require that the metric be indicative of motion of the stations and not the distance between them. The Office Action further contends that the reception level may be relatively high when the distance is small and the reception level may be relatively low when the distance is large. But, motion or rapid changes of at least one of the stations relative to the other is not the same thing as distance between the stations. Two stations may be rapidly moving relative to one another, but still be relatively close in distance to one another. The reception level would be relatively high, and reception level alone would not necessarily (i) disclose information relating to motion of the stations relative to one another or (ii) be indicative of the motion of objects in the signaling path. Moriyama does not contemplate motion between the stations, and certainly does not detect its effect on modulation attributes.

Moreover, Mobin does not make up for the shortcomings of the primary reference and does not provide any motivation for the modification suggested in the Office Action. The Office Action relies upon Mobin to disclose a correction to the Doppler shift of frequency for acquiring and tracking the relative frequency error between a mobile station and a base station. This is utilized for the purpose of correcting a frequency error to recover the signal transmitted to the receiver. Mobin discloses an observation that relative motion between a transmitting and

receiving station may result in a Doppler shift of the frequency of the signal that is transmitted. The Doppler shift may then result in an error in the received signal that may be recovered.

However, Moriyama, Mobin, and the combination thereof do not disclose or suggest any method of "calculating a metric of a modulated signal indicative of a changing environment between the first and second stations as a function of a change in at least one modulation attribute of the modulated signal transmitted across the wireless link," as recited in Applicant's amended Claim 1. The cited references also do not disclose or suggest any method of "adjusting at least one parameter of the wireless link based at least on the metric of the modulated signal to compensate for the rapid changes affecting the signaling path," as also recited in Applicant's amended Claim 1. Furthermore, the cited references also do not disclose or suggest where the metric is indicative of motion (Applicant's Claim 3) or is indicative of objects in the signaling path (Applicant's Claim 4). Mobin discloses a frequency correction unit that measures a frequency offset error due to both the Doppler shift and a crystal oscillation offset between the transmitter and the receiver, but not a metric that is indicative of motion between the transmitter and receiver, such as rapid changes in the signaling path. Thus, neither Moriyama or Mobin contemplate a correction for rapid changes in the signaling path based on a metric of a modulated signal.

In the Action, Claims 15 through 17, and 35 through 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Moriyama in view of United States Patent No. 6,697,642 B1 to Thomas (hereinafter "Thomas"). Applicant's Claims 15 through 17 and 35 through 37 require that at least one station has an antenna with an antenna mode that is changeable and wherein adjusting the at least one parameter of the wireless link includes changing the antenna mode of the at least one station.

Thomas discloses an apparatus for a wireless communications network that includes a directional beam antenna. The directional beam antenna includes a pattern or mode to steer the beam of the antenna. Thomas discloses that the apparatus includes control circuitry 406 that includes a signal quality level measurement unit 514, which receives an output from a demodulator/decoder 510 representative of the received signal. See Thomas, column 8, lines 3 through 16. The control circuitry 406 also includes an antenna controller 516 for forming and steering the beam of antenna 58. See Thomas, column 8, line 15. Thus, since the control

circuitry receives an output of the demodulated signal clearly, Thomas uses the demodulated signal to steer the antenna. Accordingly, Moriyama, Thomas, and the combination thereof do not disclose or suggest "adjusting the at least one parameter of the wireless link using the metric based on the modulated signal that includes changing the antenna mode of the at least one station."

In view of the foregoing remarks, Applicant respectfully submits that each of the other claims in the application are allowable for reasons analogous to those stated above.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims, Claims 1 through 42, are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Mark B Solomon
Mark B. Solomon
Registration No. 44,348
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133
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